## THIRD ANALYSIS

OF THE

# STATISTICS OF PHTHISIS IN VICTORIA

BY

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"It was not my choice to impeach: but it became my duty to defend"

CICERO, for Roscius

MELBOURNE

STILLWELL & KNIGHT 78 COLLINS STREET EAST

1877

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#### THE

### PREVALENCE OF PHTHISIS

IN

### VICTORIA.

"In every disease, even the most common, there are undetermined questions. Many of these questions admit of answer; many of them ought to be answered; and that many of them are not answered, is, I think, discreditable to us as a profession."

SIR WILLIAM JENNER.

In reverting to the inquiry into the prevalence of phthisis in Victoria, it would not now be difficult, and might perchance be useful, to adduce further proof of what was formerly advanced; but the authority for re-asserting a continued increase of the disease need only, on this occasion, be briefly stated.

Of the actual extent to which this increase has reached, some idea may be gained from the comparison of the last with the former census returns. Thus, the last census, in 1871,

showed 43,000 persons in the colony between the ages of 20 and 35 years fewer than in 1861, and a decreased total deaths from phthisis; yet the ratio of such deaths to numbers living, at those, the most consumptive ages, was increased 11.6 per cent. For, in 1871, 212 persons between the ages of 20 and 35 years died of phthisis. If the population at those ages had continued the same as in 1861, instead of decreasing by 43,000, deaths from phthisis would by calculation have been 274, or 62 more than actually took place.

"The death-rate from phthisis, in relation "to the whole population, is very much lower "in Victoria than it is in England and Wales." "It must be remembered, however, that the "population at the ages most liable to phthisis "has decreased during the decenniad (43,000 between 20 and 35 years of age), and there"fore the complaint is really more fatal now "in Victoria than it was some years since."

(Vict. Year Book, 1873, p. 95.)

"There are more people at the non-con-"sumptive ages and fewer at the consumptive "ages in proportion to population in Victoria than in England."

The Government Statist also writes:-

"Phthisis has within the last eleven years caused nine thousand deaths in Victoria, and both in the colony and in England is the most fatal of all diseases. The total mortality and the mortality in proportion to the population from this complaint are shown in the following table:—

DEATHS FROM PHTHISIS, 1864-1874.

	Estimated	Deaths from Phthisis.					
Year.	Mean Population.	Total Number.  686 741 782	Number per 10,000 of Population.				
1864 1865 1866 1867 1868 1869 1870 1871 1872 1873	589,160 616,375 634,077 649,826 . 671,222 696,942 709,839 738,725 760,991 780,362 798,688		11.64 12.02 12.33 12.20 11.11 12.81 12.51 11.38 11.51 12.11 12.06				
Total i	n 11 years	9,202	12.04				

Note.—Deaths registered as occurring from hæmoptysis are included in this table.

"A remarkable evenness in the mortality from phthisis in relation to the population is observable throughout the decenniad. The average number of deaths over the whole period was within a fraction of 12 per 10,000 persons living, and in not one of the years were the numbers so low as 11 or so high as 13. It must be remembered, however, that the population at the ages most subject to phthisis has decreased during the period, and therefore the complaint is really more fatal now in Victoria than it was some years since.

"The death-rate from phthisis in relation to the whole population is very much lower in Victoria than it is in England and Wales, where, in the ten years 1860-1869, the average mortality from this disease was at the rate of 25.47 per 10,000 of the inhabitants of the kingdom. The mortality from phthisis in Melbourne and suburbs compares more nearly with that of England, the deaths from it in the ten years ending with 1873 having been at the annual rate of 21.23 per 10,000 inhabitants. In 1863

"deaths from phthisis in Melbourne and suburbs were in the proportion of 23.71 to every 10,000 of the living population, or much above the average."

In the Year Book for 1874, the statistics of the death-rate from phthisis were more fully elaborated by the following additional particulars:-" From the commencement of the "classification of the causes of deaths in "Victoria in 1853 up till the end of the year " 1875, that is during  $21\frac{1}{2}$  years, 15,786 deaths "occurred from phthisis. A few more deaths "resulted from accidents than from phthisis, "and a few more from atrophy and debility, "chiefly of infants and young children; but "except these causes of death, neither of "which is a disease, more deaths were occa-"sioned by phthisis than by any other cause. "For eleven years, more deaths resulted from "phthisis than from accidents, or from atrophy "and debility. As compared with the total "population, the mortality from phthisis has "been very even during the past eleven years; "but the fact of this evenness shows that "the disease must be increasing in Victoria,

"since the population at ages subject to phthisis decreased between the census of 1861 and 1871. Between those periods the male population between 20 and 35 years of age decreased by 48,766, and the female population between 25 and 30 decreased by 1,394; and the population at those ages has certainly increased since, if at all, at a much slower rate than the remainder of the population, whence it might have been expected that the death-rate from phthisis would diminish, which has not been the case."

This diminution of the population at the ages most liable to phthisis, has been much commented upon by the press in political discussions; it was again quite lately adverted to as a prominent topic during important Parliamentary debates upon sundry points in our social statics; and the fact is now employed to determine a medical problem.

Yet another consideration, perhaps of even greater magnitude for the future of this colony than any mere knowledge of the general phthisis death-rate, is the probability of an immunity from, or a proclivity to, phthisis of the native-born population. The items of statistics upon which alone an opinion upon this question could be formed, or at all events upon which it could be best formed, are not supplied by any of the Year Books of the Government Statist, being either overlooked, or not thought requiring separate attention. But to bring into relief every minute detail, particulars upon this point will enable us so far to ascertain whether the invariably observed law equally obtains here, that in every proclaimed sanitary station for phthisical invalids, its own people has either naturally, or acquires, a marked phthisical tendency.

By this singular and well-attested law, the quite paradoxical phenomena are daily witnessed of people coming to and going away from the self-same climate for the cure of one and the same malady. How climatic influences can thus produce and remove identical morbid states may be comprehended by the ingenious, but to ordinary minds it cannot but appear enigmatical. Without levity it might be denominated a form of the fanciful homoio-pathology.

But the better rationale of the facts would be to explain them partly by the doctrine of a specific contagion, and partly upon one of unalterable heredity.

While engaged in the discussion of this subject on a former occasion, I obtained a return of the number of deaths from phthisis in Victoria for the five years ending with 1869, and the first six months of 1870, showing a total number of 4,259 for the five-and-a-half years. Of that number 233, or 5.47 per cent., were among the native-born youth of the colony. Continuing the inquiry throughout the four succeeding years, the results have been found as detailed in the subjoined table, giving a still more complete idea of the greatly increased ratio, when a gradual yearly increment of the per centages of deaths among the Australian-born whites to the total deaths from phthisis, will be found in the following tabular arrangement which will explain the matter more clearly than any words could convey.

Table showing the total number of Deaths from Phthisis in Victoria, and the proportion of these among persons born in Australia.

	Total Number	Born in Australian Colonies.						
Year.	of Deaths from Phthisis.	Number.	Percentage to total number of Deaths.					
1865								
1866								
1867			5'47					
1868	4,259	233						
1869		7						
1870*	1							
1871	841	91	10.82					
1872	876	112	12.79					
1873	945	147	15.26					
1874	1,011	158	15.63					

<sup>\*</sup> First half of.

Thus, then, we here find a steadily progressive and unbroken increase of deaths from phthisis among the native-born youth, from 5.47 per cent. up to 15.63 per cent., or exactly treble in nine years! No doubt this fact has to be taken into consideration along with another, that in the interval a vast increase

has occurred in the number of native-born youth who have grown up from under, into the phthisical ages. What this proportion is cannot be calculated, but it may be roughly estimated: First, from the figures in the table on page 15, showing the increased ratios of fatal phthisis between the ages of 20 and 25 of from 1.26 in 1861, to 1.70 in 1871; and between the ages of 25 and 30 of from 1.86 in 1861, to 2.40 in 1871. Second, from remembering that between the two censuses the whole population increased only by 35 per cent., while the native population increased by 139 per cent.

The following additional remarks upon this point are taken from the Melbourne Daily Telegraph of June 6th, 1876:

"While the ravages of scarlet fever attract natural attention, because of their sensational character, it is well to bear in mind the presence of a still more deadly foe which is ever in our midst. Consumption alone kills yearly in Great Britain nearly half as many people as all the variety of infectious discorders together, including in the list typhus,

"scarlet fever, measles, small-pox, cholera, "diphtheria, and whooping-cough. The mor-"tality under the head of 'infectious diseases' "in England and Wales is 110,000 per annum, "and the deaths from consumption are 53,000, "irrespective of the cognate diseases of child-"hood. Thus phthisis is the great enemy of "our race; thus a vital interest attaches to "the question raised by Mr. W. Thomson-Is "consumption developing itself in a marked "manner among the colonial-born white popu-"lation of Victoria? It is Mr. Thomson's "opinion that it is. In his recent essay he "pointed out that fatal phthisis had increased "among the Australian-born from a ratio of "5 per cent. of the whole in 1870, to 15 per "cent. in 1874, and he urged that the increase "in the numbers of the native-born population "did not cover the development of the death-"rate. This last assertion was disputed, and "since then Mr. Hayter has furnished valuable "information on the point. Mr. Hayter writes: "'The following are the total numbers of "' Victorian-born persons returned at the last " four censuses:

	Victor	rian-born.			
Year of Census.	Numbers Returned.	Increase shown at each Census as compared with the former one.	Number of years between each Census and the former one.		
1854	29,996				
1857	68,173	38,177	3		
1861	138,075	69,902	4		
1871	329,597	191,522	10		

"The total increase of persons born in Victoria "during the seventeen years between 1854 "and 1871 was nearly 300,000. All of these, "says Mr. Hayter, 'must have been born since "'1854, and consequently not one could in "'1871 have been more than seventeen years "' of age. The only Victorians who could, at "'the census of 1871, by any possibility have "'been over seventeen years of age are those "'-amounting to about 30,000-enumerated "'in 1854, and of these it is not at all likely "' that more than 20,000 were alive and in "'the colony in 1871. It is, therefore, certain "'that the number of Victorian-born persons " at phthisical ages living in the colony must "'still bear a very small proportion indeed to

"'the whole number of Victorians contained "'in the population.' In 1871 there were "400,000 persons above the age of seventeen "in the colony, and if Mr. Hayter is right the "colonial-born constituted 5 per cent. of that "number, and their phthisical mortality should "have been 5 per cent. also; but it was 10 per "cent. However disagreeable it may be, the "conclusion appears inevitable that though we "have crossed the seas, we have not shaken "off the fatal hold which consumption has "acquired upon the English race. It remains "for Mr. Thomson to see how far the tuber-"cular diseases of childhood are fatal here, "and there is reason to believe that he will "have a sad story to tell. The awakening "from the condition of security in which "people have lived, relying upon the climate "and the land, may be unpleasant, but still "no one would wish to dwell in the paradise " of the fool."

These facts demonstate that at those ages, when ordinary causes of phthisis, effective in all other countries, come into active operation here, their action is not affected nor

in any way modified by climate. It will probably be replied that many young people from adjoining colonies have been attracted to Melbourne for employment in factories; but this will only the more prove the truth of the previous inference. Or, it may be averred that many have come into town for medical advice, and remain to die, as is suggested by the Government Statist in his last Year Book, at p. 190, par. 498. But, in the entire absence of exact data for such an opinion, it cannot be said to rest upon a precise basis of fact; while it might be refuted by the equally tenable opinion, that many young people who come into town from the country to work in factories or go into domestic service, and there contract phthisis, return home to their relatives in the country, and so relieve the aggregate town mortality, and swell that of the country; the one source of fallacy probably thus correcting the other. People coming from the country to be medically treated for phthisis and to remain in town to die, most commonly belong to the class who seek hospital aid in sickness. Testing thus the same argument, we find that

#### VICTORIA.

Return showing the Population of VICTORIA at various Periods of Age; the number of Deaths from Phthisis; and the number of Deaths to every 1000 Persons, living, at each Age-period, during the years 1861 and 1871 respectively.

Ages.	Рори	lation.	Der	ber of aths Phthisis.	Number of Deaths from Phthisis to every 1000 of the Population.	
	1861	1871	1861	1871	1861	1871
Under 5 years -	91,514	116,688	32	20	*35	17
5 to 10 ,, -	53,265	106,503	9	6	.17	·06
10 to 15 ,, -	34,535	85,585	15	8	<b>.</b> 43	•09
15 to 20 ,, -	33,117	54,556	27	42	.82	.77
20 to 25 ,, -	56,147	49,422	71	84	1.26	1.70
25 to 30 ,, -	81,073	54,270	151	130	1.86	2.40
30 to 35 ,, -	69,308	57,357	156	118	2.25	2.06
35 to 40 ,, -	44,036	62,030	117	123	2.66	1.98
40 to 45 ,, -	32,280	52,821	65	107	2'01	2.03
45 to 50 ,, -	17,763	33,459	49	73	2.76	2.18
50 to 55 ,, -	13,057	25,100	28	55	2'14	2.19
55 to 60 ,, -	6, 162	13,522	16	35	2.60	2.29
60 to 65 ,, -	4,796	10,114	13	23	2.41	2.27
65 to 70 ,, -	1,718	4,944	r	9	.58	1.82
70 to 75 ,, -	947	3,325	2	4	2.11	1.50
75 to 80 ,, -	357	1,128	r	I	2.80	•89
80 and upwards	247	704	3			4.26
Total	540,322	731,528	753	841	1.39	1.12
20 to 45 years -	282,844	275,900	560	562	1.98	2.04

whereas during the years 1868 and 1869 the proportion of native-born who died of phthisis in the Melbourne Hospital to the total number of deaths in that institution from the same disease was nearly 7 per cent., in the last four years it only rose up to  $10\frac{1}{2}$  per cent., a rate not at all equal to the general increase of deaths from phthisis among the general population.

To show this hospital ratio the more clearly, the following table has been arranged:

#### MELBOURNE HOSPITAL.

Return of the number of Cases of Phthisis among Victorians and other Australians, during the years 1871-72-73-74.

	Natives of	Victoria.		of other n Colonies.	Total Natives of Australia.		
Year.	Year. Number of Cases, fatal and non-fatal. Number of Deaths.		Number of Cases, fatal and non-fatal.	Number of Deaths.	Number of Cases, fatal and non-fatal.	Number of Deaths.	
1871	13	7	13	4	26	11	
1872	15	4	4	2	19		
1873	24	15	4	4	28	19	
1874	16	4	8	7	24	11	
	68 30		29	17	97	47	

The total number of deaths from phthisis during the four years being 451, the 47 deaths among the Australian born is about 10½ per cent.

In offering these explanations, it is always borne in mind that they are merely conjectures of what is the probable interpretation of facts which at present form a rather ugly blur upon the social economy of a young people.

It may again be urged that the rate of phthisis fatality in Victoria, revealed in the table on page 15, is low if compared with that for England. Another table on page 19, shows that between the ages of 25 and 30 the rate in Melbourne and Suburbs is double of that in the rest of the colony. Formerly, Melbourne and Suburbs were compared with England, because their area, nearly ten miles in diameter, is equally populous, phthisis being always co-related to degrees of density. Taken in that relation, Melbourne and Suburbs, when compared with England, rather than with any one of its huge compactly-peopled cities, exhibits a parallel. In the more thinly populated rural counties of England there often is

less phthisis to a given area than in equally sparsely peopled parts of Victoria or Tasmania.

In one particular the table at page 19, giving the numbers for Melbourne and Suburbs, shows the same result for their town populations as that at page 15 did for the whole colony, viz. at the ages from 20 to 25, and from 25 to 30 years, there was a notable increase between the censuses of 1861 and 1871, the latter lustrum being the greater.

#### MELBOURNE AND SUBURBS.

Return showing the Populatian of Melbourne and Suburbs at various Periods of Age; the number of Deaths from Phthisis; and the number of Deaths to every 1000 Persons living, at each Age-period, during the years 1861 and 1871 respectively.

<b>A</b> ges.	Popul	ation.	Numl Dea from Pl		Number of Deaths from Phthisis to every 1000 of the Population.	
	1861	1871	1861		1861	1871
Under 5 years -	24,243	30,204	14	12	.58	·40
5 to 10 ,, -	15,592	27,849	4	2	•26	.07
10 to 15 ,, -	11,370	24,060	9	6	<b>.</b> 79	.25
15 to 20 ,, -	10,345	17,650	15	23	1.45	1.30
20 to 25 ,, -	13,590	17,476	39	52	2.87	2.98
25 to 30 ,, -	17,324	17,355	59	73	3.41	4.21
30 to 35 ,, -	15,364	15,743	71	65	4.62	4'13
35 to 40 ,, -	11,013	15,757	52	68	4.72	4'32
40 to 45 ,, -	8,174	13,930	33	56	4.04	4.02
45 to 50 ,, -	4,887	9,330	21	40	4.30	4.29
50 to 55 ,, -	3,656	7,086	9	26	2.46	3.67
55 to 60 ,, -	1,895	4,014	2	16	1.06	3.98
60 to 65 ,, -	1,369	3,066	2	13	1'46	4.54
65 to 70 ,,	573	1,599	I	4	1.24	2.20
70 to 75 ,, -	309	1,078	I	3	3.24	2.78
75 to 80 ,, -	133	368	I	I	7.2	2.72
80 and upwards -	<b>7</b> 9	215		1	•••	4.65
Total	139,916	206,780	333	461	2.38	2.53
20 to 45 years -	65,465	80,261	254	314	3.88	3.91

The next table affords a comparative view of the relation of the number of deaths from phthisis to the population in England and Wales and in Melbourne and Suburbs.

#### COMPARATIVE TABLE

Return showing the Population, number of Deaths from Phthisis, and number per 1000 of the Population in England and Wales and Melbourne and Suburbs respectively.

		AND WALE Years, 1848	MELBOURNE & SUBURBS. (Mean of Years 1861 & 1871.)			
Адев.	Population.	Deaths from Phthisis.	Deaths from Phthisis per 1000 of the Population.	Population.	Deaths from Phthisis.	Deaths from Phthisis per 1000 of the Population.
Under 5 years -	2,355,141	3,897	1.65	27,223	13	<b>.</b> 48
5 to 10 ,, -	2,098,626	1,457	.69	21,720	3	·14
10 to 15 ,, -	1,919,088	2,209	1.12	17,715	8	45
15 to 25 ,, -	3,434,053	12,485	3.64	29,531	64	2.12
25 to 35 ,, -	2,754,829	11,985	4.35	32,893	134	4.07
35 to 45 ,, -	2,063,341	8,503	4'12	24,437	104	4.56
45 to 55 ,, -	1,512,307	5,382	3.26	12,480	48	3.85
55 to 65 ,, -	1,010,616	3,166	3.13	5, 172	16	3.09
65 to 75 ,, -	579,410	1,323	2.58	1,780	5	2.81
75 and upwards	253,902	242	.95	397	2	5.04
Total	17,981,313	50,649	2.82	173,348	397	2.59
25 to 45 years -	4,818,170	20,488	4.25	57,330	238	4.12

In quite briefly recapitulating the direct inferences deducible from the foregoing figures, it may now be finally affirmed:

First, that the fatality from phthisis at the ages most liable to the disease has very largely increased.

Second, that even in that greatly augmented ratio of fatal phthisis among the general population, there has also been a still more remarkably increased proportion of fatal phthisis among the native-born.

To discover the immediate or remote causes of these rather startling results would become a suitable inquiry preliminary to the application of a preventive remedy. They are not transient and fitful, like the cause of a diademic; but are, though not endemic, in perennial activity.

# THE INFLUENCE OF SEASON.

"The hot winds of our summer have the same effect in checking hurtful undergrowths, as the nipping frosts of the northern winter."—SIR REDMOND BARRY, Lecture on Climate.

It is usually thought that Australian climates, in all their minor varieties, act beneficially on phthisical persons, by reason of their warmth and dryness. But, singularly enough, the greatest mortality from phthisis has, with the sole exception of August in 1874, when the deaths for the month from phthisis numbered 60, the greatest number yet recorded in any one month, often occurred during unusually dry and hot seasons. Thus, in March 1870, a hot and dry month, at the very close of a long drought, when everything in nature was arid, scorched, or burnt up, there were, in Melbourne, 51 deaths from

phthisis, this being then the highest monthly mortality ever recorded of that disease in this city; while in December 1873, which was the first very hot and dry season for a long time, the periods intervening between then and March 1870 having been mostly moist open seasons, the death-rate from phthisis rose for the first time since the last hot dry season of 1870, to over 50, there being 53 deaths from phthisis in 502 deaths, the mortality for the month. The combined conditions of warmth and dryness did not, therefore, during those seasons, seem favourable for the phthisical. What is true of Melbourne has been ascertained to be equally true of the whole colony. By comparing the mortality month by month throughout a series of years, it will be found to vary very little, proving phthisis to be, as a rule, neither beneficially nor injuriously affected by dry hot, or by cold wet, weather in this country; nor by any combination of temperature and moisture; neither causatively, nor even as greatly influencing the final result.

The table on the next page, 24, sets forth that between the 350 deaths in hot February,

MELBOURNE AND SUBURBS.

Number of Deaths from Phthisis in each Month of the eleven years from 1865 to 1875; with the Mean Temperature in the Shade.

Mean Temperature in the Shade	(Average for 16 years.)	Deg.	2.99	9.59	63.8	58.8	53.3	49.8	47.7	20.1	53.3	57.1	8.09	6.89	57.6 (Mean.
	Total.	,	365	350	422	399	376	418	424	450	374	414	376	410	4,778
	1875		32	36	50	48	48	52	50	48	37	50	38	36	525
	1874		37	41	50	52	39	36	45	9	43	41	36	48	528
ii	1873		39	27	33	42	38	31	44	49	38	50	34	53	478
Phthisis	1872		40	31	27	56	56	40	40	41	45	33	36	36	421
as from	1871	C	28	31	37	32	39	40	42	49	42	45	38	38	461
Number of Deaths from Phthisis in	1870		34	31	Şī	36	32	48	44	40	27	35	34	38	450
Number	1869		32	30	36	38	38	4	36	40	37	47	38	32	448
	1868		30	59	31	25	39	56	33	39	33	24	34	30	376
	1867	e e		28	38	41	56	25	27	31	56	38	34	34	378
	1865 1866	Č	52	28	35	56	61	36	35	21	22	25	30	35	347
·	1865	•	51	38	34	30	32	37	28	32	24	56	24	30	366
		(	•	•	•	•	•	•	1	•	•	•	•	•	•
<b>ઝં</b>		•		•	•	•	•	1	•	•	•	•	•	•	•
Months.		Tannary .	February	rebruary	March	April -	May .	- June	July -	August -	September	October -	November	December	Total

and the 450 in cold August, there is just the average of about 90 (reckoning the three days difference between August and February to bring the 350 of the shorter month up to 360). Ninety deaths in eleven years is a small variation; and this would be found still smaller by taking the numbers for July, the coldest month, at 424, and comparing them with the 360 of February, leaving a difference between the coldest and the hottest seasons of only 64 deaths. After that calculation, a comprehensive writer on climate, like Dr. James Henry Bennett, besides informing his readers that "the Australian summer is so very hot that great care is required," might well have added a word of warning about the rigour of the winter.

Indeed, the view of our seasons depicted by that graphic writer, in his treatise on consumption, barely accords with his opinion of them given in a later work; and without going into any minute dissertation on seasonal influence upon invalids, or comparing degrees of prevailing sickness with recorded meteorological observations, a hint may very well

be thrown out to intending travellers, preparing for a trip hither, according to accounts of authoritative writers on medical climatology. To that end it will suffice to give a brief commentary on an equally short extract from a beautiful volume and approved guide-book, entitled, Winter and Spring on the Shores of the Mediterranean. Therein, the author, after extolling the climate of the Riviera, adjures his readers to recollect that descriptions of climates "contained in most books of travel, "works on climate, and guide-books, are mere "poetical delusions. The perpetual spring, "the eternal summer, the warm southern "balmy atmosphere, described to the reader "in such glowing terms, only exist in the "imagination of the writers. Although there "is so much sunshine, so much fine weather, "such immunity from fog and drizzling rain, "\* \* it is still winter; wind, rain, a chilly "atmosphere, and occasional cold weather, "with snow on the mountains, and flakes of "ice in exposed situations, have still to be "encountered. It is well, therefore, that the "invalid traveller should be prepared to en"counter them; otherwise, anticipating an "Eldorado, balmy zephyrs, perpetual sunshine, "and an ever-smiling nature, he is disappointed. I believe that continuous warm weather in winter, and the complete absence of cold days or nights, are not to be met with in the temperate zones. If they are requisite, however, the tropics \* \* or, better still, the invalid longing for summer, for constant fine warm weather, should at once go to the antipodes, to Australia."

To any one who has lived in Victoria during ordinary winter and spring months, this glowing account will hardly fail to appear as other than ungentle irony; for the author's criticism is fairly applicable to his own eulogy. Seasons are, indeed, often unusually inclement; but, even if it were quite true of the Australias, that—

"Eternal summer gilds them yet,"

it is as emphatically so that the sun of their repute has set as a land or clime whose people are exempt from phthisis.

In a report of a debate at the Medical Society of Victoria, on the subject of Phthisis in Australia, and published in the Australian Medical Journal, September 1876, is a remark of Dr. John Day, of Geelong, President of the Society, that "it will be interesting to learn "whether in our over-crowded cities and towns "where, as in some parts of Melbourne, the soil "is saturated with filth, and the atmosphere "polluted with the products of decaying organic matter, the deaths from phthisis are fewer "than they are in cities and towns of equal "size and density of population in the mother "country."

By a reference to *The Victorian Year Book* for 1875, it will be found that the Government Statist has already anticipated Dr. Day's inquiry, as was indeed done by myself in 1870, and fully answered it, by showing how Melbourne and its suburbs may be fairly compared to all England, in regard to the conditions for fostering phthisis, and that accordingly the disease is actually in both countries about equally prevalent. "There "are, however," continues Dr. Day, "fair "grounds for assuming that our Australian "climate is especially adapted for consumptive

"people. The atmosphere, for instance, is "in many places charged more or less with "vapour of essential oils, given off from the "leaves and flowers of the various species of "eucalyptus with which this colony abounds; and these oils have been shown to possess the property of exalting the purifying powers of ordinary atmospheric oxygen, by converting a portion of it into peroxide of hydrogen."

In reply to this observation, it may be objected that the northerly and easterly winds, of which so much has been semi-poetically written relative to their influence over disease, blowing across the continent of Australia, ought to be laden with the health-giving vapour from the eucalyptus leaves, and therefore be highly charged with ozone. Yet the very contrary is found true of those winds. Of that element, whether called ozone or peroxide of hydrogen, all easterly and northerly winds are utterly destitute, while it abounds in westerly or southerly winds, coming seawardly, and therefore carrying none of the oil. Indeed, the effect of these balmy essences, exhaled so copiously from superstitiously adored blue

gum trees, is as great a myth as is the healing virtue of any other Fetich. It is purely an idol of the chemist's laboratory, but never a realised clinical fact. The thought of it has only tickled the fancy of Victorian physic, raging after fantastic novelties, and evermore apt to imagine what things medical ought to be, than to patiently learn what they are in reality. It would now be a positive blessing to sanitary science and a practical benefit to the timber trade, if every ugly gum tree were rooted out of the earth, "cremated," and the ashes given up to the growth of oak, or elm, or ash, or fir, or doubly-useful mulberry. Then might Australian sanitarians-amateur professional, and their name is legion—possibly gain some medical reason in beholding a beautified landscape; for as the trees are at present in nature, they all too truly realise Chaucer's "peinted forest,"—

> "With knotty, knarry, barrein trees old, Of stubbes sharpe, and hideous to behold,"

un-æsthetic aspects not greatly relieved by the idea of the vile odour of the wattle, or of the general balsamic perfumery.

In plain truth, the lessons more and more teach that the cause of phthisis operates within the living tissues wholly independently of the extraneous circumstances surrounding the individual; and that, in regard to it, we need only slightly alter the old distich of Horace, and declare that they change the sky, not the body, who go beyond the sea.

# IS PHTHISIS INDIGENOUS OR IMPORTED?

"Unless this is imported phthisis, or there is something in the morale of emigrants favouring the occurrence of phthisis, it would almost seem as if the climate favoured its production."—Lancet, June 10, 1871.

"Here, as elsewhere, we must search out the causes "after we have collected the facts."—H. A. Taine, Hist. Eng. Lit.

In explanation of many of the foregoing facts it is often stated that the excessive mortality from phthisis depends upon the number of invalids who come to the colony as a sanatorium; and to this theory I shall now very briefly refer.

How much of our fatality is from imported, or what proportion of it is due to indigenous phthisis, does not admit of direct answer. In the daily notice of medical men and laymen, invalids throng to the colony, some in the earlier stages of disease, perhaps to benefit

by the change; others, far advanced, to die soon after landing. Many return immediately, of whom some may be lastingly improved in health; but a goodly number die on the way home. No record is kept of these events, except of the final one, when it happens here.

Besides the general idea that everybody holds about this peculiar passenger traffic, there are various methods of forming fairly accurate calculations of the probable numbers who come and go, or who here end their journeying.

The first of these methods is, to take account of the number of deaths from phthisis on board ships sailing from ports in the three kingdoms, and from them infer the probable number of invalids who come out while labouring under incurable phthisis.

For example, during the four years 1871, 1872, 1873, 1874, the years for which we have taken other data, of 105 deaths from all causes, except casualties—as drowning, falls, &c.—50 were from "consumption." This term did not include "debility," "marasmus,"

"tabes," "exhaustion," "throat disease," "atrophy," "hæmorrhage from the lungs," or other equally vague names for closely allied affections. If these were really only different ways of denoting one and the same complaint, then they would have added many more deaths to the list. In fact, it is not assuming too much to estimate that about 70 in every 100 deaths at sea on the outward voyage are probably from phthisis.

Of the outward voyage alone is a record kept here. We only learn by hearsay what happens on the homeward run. Many deaths doubtless occur then. Vessels sailing from London are often likened to floating hospitals, a comparison that, in a favorite sea-trip for a fatal complaint, is not surprising. The diagnosis of the disease for which the sick came may have been good, but the prognosis cannot always be well considered, or so many would not leave in a precarious state; though the fault may be through the anxiety of friends as much as from medical error, when procrastination at the beginning is followed by rashness at the end,

It would be out of order to offer an opinion of the value of a sea-voyage in phthisis; but, whatever its merit, one thing is clear, that, in practice, deep-laden barges with flooded cabins and swept decks cannot but be illadapted for the sick; and such is too often the case of the modern sea-omnibus. If seavoyaging be the means of relief, it must be made on board of well-appointed vessels. The duration of the Australian voyage is generally longer now than it was two and twenty years ago, and, for invalids at any rate, nothing less are its hardship and discomforts. To these causes I do not ascribe the mortality that takes place on the voyage. That imputation was made during a medical debate, by gossiping exaggeration that had nothing better to say. What we are now alone concerned to know is, the number of invalids arriving in the colony to inordinately swell the mortality from phthisis. In entire absence of exact data, the question would have subsided into a mere guess.

But, freely admitting what is undoubtedly true, that very many fatal cases occur among

those who arrived in advanced phthisis; the question may arise, how will the fact argue in favour of the alleged curative power of the climate? The reply would affect the prospects of those pitiable people almost daily met with, who, being like *Werner*,

"Sick, poor, and lonely,"

are in search of renewal of life and employment. To fight the battle of life here, a tough body is as needful as anywhere; though the crowds of enfeebled applicants would imply that a contrary belief is held by those who send them. Probably it may be true of Melbourne, what Dr. Bennet says of some English sanataria, that "many of the residents, "tradespeople, gentry, and doctors in these "localities are cured invalids, who have "settled where they recovered their health." It grows a bye-word, though no reproach, that many of our public institutions are officered, it may be in high intellectual efficiency, by valetudinarians of phthisical physique. If these establishments are made to combine the asylum with the lyceum, their

founders cannot believe that phthisis is a contagious complaint. To the frail frame that England could no longer nourish, we often owe the more highly endowed mental part; but, the precept continually dinned into the ears of our young folks, about the duty of keeping a sound mind in a sound body, would hardly appear to be thought needful of being taught by example.

Something of this communicability of phthisis may by learned from its history among the aborigines. The mode in which they are affected by it can, probably, be best explained by a doctrine of specific contagion. Of the three diseases that have proved most fatal to them, smallpox, syphilis, and phthisis, the former two are purely contagious, the last, perhaps, equally so. It is usual to attribute phthisis, as seen among them, to repeated attacks of cold, caught by their own habits, or by habits they adopt from imitation; but the following narrative is more likely an illustration of the operation of the contagion of an acute specific fever, such as phthisis is, with good reason, by many affirmed

to be. The episode is quoted by Topinard, from Oldfield.\* "Thirteen natives came in a "party of merrymaking, from Hawk's Bay "to the River Murchison, Western Australia. "Within three months afterwards, twelve of "them had succumbed to galloping phthisis, "a form which often occurs in that region; "and the thirteenth remained also fatally "attacked." It is hardly probable that a hecatomb like that would have been caused by ordinary cold, producing pneumonic phthisis, either by lobular or catarrhal pneumonia, or capillary bronchitis. Infinitely more likely is it that they were all simultaneously affected by the one specific contagium, to which they were exposed in a region where "galloping phthisis often occurs." The tragedy exemplifies what happens to the white races, oftener than is imagined; for there can be no doubt whatever that tubercular phthisis is often observed as a contagious fever in this country;

<sup>\*</sup>Étude sur les Races Indigèns de l'Australie, par le Docteur Paul Topinard. Paris, 1872, p. 98. Also, On the Aborigines of Australia, by Augustus Oldfield, Esq. Trans. Ethnol. Soc. London, 1868, p. 240.

but upon this subject the writer has given fuller particulars in a separate publication.\*

There is another general opinion entertained, that here there are many cases of acute phthisis, running the invariably rapid fatal course; this country more resembling Italy than England in that respect. It is also by many thought that persons coming here with advanced phthisis have less chance of long surviving than they would have had in England; while, on the other hand, it is held that in the earlier stages of the disease, the prospects of ultimate recovery are better. But, it must be obvious that these are all matters, not for general statistics to deal with, but to be decided alone by individual medical opinion. When this opinion is formed after carefully acquired clinical experience, the degree of credence attachable to every narrative will depend, not alone upon the credibility of the narrator for mere vulgar veracity, which anyone can use or abuse; but upon the higher desideratum of matured, skilful, and dispassionate judgment. To the free exercise of this quality of mind, any preconceived

<sup>\*</sup> Histo-Chemistry and Pathogeny of Tubercle, 1876.

notion forms, in the weakness of human nature, always an insuperable barrier. Trite platitude as the sentiment is, yet it has been so frequently exemplified during this controversy, that a fresh reference is almost inevitable.

In determining the foregoing questions, it is truly to be hoped that men who have gained the necessary information will confidently trust to their own conclusions, and not rely alone upon the fact of British physicians continuing to order hither exhausted invalids as proof enough of the suitability of our climates for the phthisical. Well may they resort to appeal from the colonial judgment upon a medical debate, where the bias of personal criticism forestalls medical knowledge, and usurps the function of reviewer; but the time has gone by when local medical men can honorably shirk the fatigue of forming an opinion upon any moot problem involving hard study, on the idler's plea of "waiting to hear what will be thought of it in England." Upon a great question, such as we are now engaged with, the resident medical men ought at least to be able to aid the profession elsewhere in forming

a true estimate. This duty "the local papers and the members of the medical profession" are fully accredited by many with having faithfully performed. Yet, in the face of all their protests against invalids coming, "the cry is still they come." Not very long ago the Melbourne correspondent of The Globe, a layman doubtless, solemnly warned the people of England no longer to labour under the sad delusion that sends "incalculable numbers" out to a city whose air reeks with pestilent vapours, or is "laden with poison particles dried up from the foul street channels." It is astonishing to find "the local papers and the local medical men" thus getting praise, and it would be gratifying if they could take the flattering unction to their conscience as deserving it.\* For once, if home writers be

<sup>\*</sup> The following letter from the Chief Commissioner of Police, affords a very valuable testimony upon the subject:

<sup>&</sup>quot;Melbourne, 6th March, 1871.

<sup>&</sup>quot;My dear Sir,—Allow me to thank you for sending me a copy of your pamphlet—A Sequel to the Essay on Phthisis—and the accompanying papers. I have perused them with much interest.

<sup>&</sup>quot;It would be impertinent in an ignorant layman like "myself to offer an opinion on such a subject; but the

correct, an united profession openly deprecated the practice which those writers condemn; no one can exult over his fellows for his greater part in the good work; nor with the unpopular Roman Tory exclaim,

"Alone I did it."

By another mode of reckoning it will be found that the great majority of those who died of phthisis had lived long in the colony.

"following fact, which has come under my own observa"tion, is perhaps worth communicating. I have for
"the last twelve or thirteen years been residing at the
"Melbourne Club, and have there met many visitors
"afflicted with phthisis from Europe, who have come out
"here in the hopes of the Australian climate effecting a
"cure.

"Many of them have remained here for months, or been sent on to Queensland—the Australian Madeira. The greater majority ultimately went home, and I almost invariably heard of their death, either on their passage home or on their return to Europe.

"I confess that I have long entertained grave doubts as to the correctness of the opinion of the curative effects of our climate for pulmonary diseases. The overpowering statistical evidence which you now produce must, I apprehend, set the matter at rest at once and for ever.

"Believe me, with many thanks,
"Faithfully yours,

"FREDK. STANDISH.

"Wm. Thomson, Esq."

This was shown on analysing the statistics for the whole colony by a formula like that at page 12 of the *Digest*, 1871.

In formerly collating the statistics of Melbourne and suburbs, it was ascertained, that of 2143 deaths from phthisis during the five years 1865-9, and first half of 1870, the average period of residence of the deceased persons had been about eleven and a half years, while the average duration of illness had been less than a year and a half. In other words, they had lived ten years in the colony before they became ill.

An objection was taken to that calculation, that it only included the deaths in one city, and not those in the whole colony. It may however be observed that the statistics for Melbourne and suburbs were at that time the only available data. After that earlier inquiry the numbers for the whole colony were obtained from the Government, and upon being carefully examined gave the same result. Taking account only of Victoria, exclusive of Melbourne, at the same periods, viz., during the same five and a half years, it was found

that there had been 2116 deaths from phthisis, with an average period of residence in the colony of 12.6 years, and an average duration of illness of nearly a year and a half; the town and country thus giving identically the same averages.\* By taking the whole numbers

\* The medical representative of the government of Tasmania declared that my mode of dealing with the vital statistics of Melbourne was "most disingenuous." To vindicate the lovely island from the stigma of harbouring a fell disease, the official statist was authoritatively employed to rebut the statements that proved its presence, and before "the English medical press" confute my deductions. With that aim he observed, "As the question "of the prevalence of consumption in the Australian "colonies has of late been much discussed in the neigh-"bouring colony of Victoria, and commented on by the "English medical press, I shall examine the question "closely, as much statistical data has been applied "fallaciously." Then passing on from scientific exercitation to ethical censure he added, "To select Melbourne "city, the great rapidly-increasing capital of Victoria, or "its Hospital, or other public institutions, as a basis for "the death-rate for consumption in Victoria, is most "disingenuous." The error of this remark lay in asserting that metropolitan statistics had been purposely "selected," to make a show, and in ignoring my efforts to obtain complete returns for the whole colony, repeatedly made until importunity wrung them from a reluctant Cabinet. The returns for the capital were guardedly taken for what they were worth, and from that nucleus the argument was developed. They who withheld information concealed the

together, there were in all, during the five and a half years, 4259 deaths from phthisis, in persons who had lived in the colony about twelve years on an average, and who had been ill of the fatal complaint only about one year and a half.

truth, in spurious defence of the climate's salubrious By taking advantage of that reputation, they wished to enhance the money value of their saleable allotments. Taking the narrow view of patriotism towards the patch of earth called their country, they overlooked the wider aspect of disease affecting all mankind, and, like all true patriots, maligned whom they could not conquer. My censor carefully pointed out that "Phthisis stands at the "head of all the diseases causing death in the English "Tables." In the Victorian Tables he will now be able to note the same fact. This will surprise him. In a quaint bit of confidential biography, the indefatigable statist narrates how, during 39 years' (or one year short of the term required for graduating in experience with the proverbial double qualification) residence in various parts of Tasmania, he devoted much attention to the subject, and had "garnered data" enabling him "positively "to affirm that consumption in Tasmania, in proportion "to the population, is very much less rife amongst the "whole inhabitants, both imported and born in the island, "than in England and Wales." In proportion to the "whole" population it may be so; but of the circumstances of that population as regards numbers living at the specially consumptive ages, of its density or sparseness, occupations, and other equally important modifiers of the factors in phthisical causation, the vital statist of the Of the total number of deaths, 349 were of persons who had been in the colony less than three years; 213 were of natives of the colony; and of 310 the antecedents of the deceased persons were unknown. Of these 310 persons, it is probable that they had lived long in the country, for the particulars about more recent comers are generally easily learned.

Therefore, as far as the records published under the sanction of medical men enable us to form a conclusion, they clearly prove that the large majority of those who here die of phthisis contract their illness while resident in the colony. If error there be, it rests with

Tasmanian Government takes no note. To him age brought neither wisdom nor moderation of language; and I might therefore fairly retort the tu quoque, by accusing him as a statist of neglecting to calculate the death-rate of phthisis as always geometrically multiplied in proportion to density of population? Thus reckoned, there ought not to be, in thinly peopled Tasmania, more phthisis than there usually is found in a sparsely peopled English rural district; yet there really is more of that disease in Tasmania than there is in some such parts of Great Britain, or even of our own Victorian interior. See The Report on the Climate, &c., of Tasmania. Hobart Town, 1872, p. 16.

those who inexactly state the duration of that illness along with the cause of death.

It was also objected to the calculations, that no information had been offered by me from personal observations of the effect of the climate in individual cases, although it is not quite evident how that defect, even admitting it to be a valid objection, could in any way affect the aggregate result. In entering upon this inquiry, I resolved to take only the public data, because they alone were equally open to every inquirer's scrutiny. As I began, I prefer to end. Individual practical experience may lead others to a different summary of results. But, if these results be obtained by merely reckoning the number of deaths from phthisis in the whole population, without regard to age or circumstance, they must be fallacious, fit only for politicians urging on immigration, but futile for pathology: mere "idols of the market place," such as often "come between medicine and truth."

And now before taking leave of the subject of *Phthisis in Victoria*, I shall, by way of general recapitulation, here give a few more

statistics from the last Year Book, 1876, published by the Victorian Government; and offer a very few remarks thereon in finally disposing of the discussion. The Government Statist proceeds to say:—

"In consequence of the epidemic of measles "which prevailed in the colony in 1875, phthisis "did not in that year maintain the position it "had previously almost invariably occupied of "being the most fatal of all diseases. It, "however, stood second to measles only, and "in relation to the total population it occupied "the same position it had held for years "previously. As I pointed out last year, if "it be true that the population at phthisical "ages is decreasing, as there is reason to "believe, it follows that, since the death-rate "from phthisis remains unchanged, the disease "in a fatal form must be increasing. The "following are the deaths from phthisis, and "their proportion to the estimated mean "population during the last eleven years. It "will be observed that the death-rate was "never so low as 11, and never so high as "13 per 10,000 in any year:—

DEATHS FROM PHTHISIS, 1865 TO 1875.

	Number of Deaths from Phthisis.	Deaths from Phthisis per 10,000 persons living.	
1865	74 <sup>1</sup>	12.03	
1866	782	12.33	
1867	793	12.50	
1868	746	11.11	
1869	893	12.81	
1870	888	12.21	
1871	841	11.38	
1872	876	11.21	
1873	945	12.11	
1874	1,011	12.66	
1875	1,027	12.60	
Total in ) II years	9,543	12.12	

"It will be seen that the death-rate from phthisis in Victoria is lower than that in England; but it is evidently taking too favorable a view of the health-sustaining properties of our climate to imagine that much value is to be attached to this result. "It must be remembered that Victoria is a

"thinly-peopled country, where persons living "away from the metropolis are settled for the "most part on farms, squatting stations, or "goldfields; are engaged in healthful pursuits, "and are, as a rule, apart from those influences "which are held to conduce to the spread of "phthisis. The death-rate from phthisis in "such a country, leaving out of sight altogether "the question of its climate, would naturally "be lower than that prevailing in a densely "populated country like England, where a very "large proportion of the extra-metropolitan "population is crowded together in manufac-"turing towns, is engaged from childhood in "unhealthy occupations, carried on in confined "and frequently ill-ventilated buildings, and "where also the struggle to obtain the "necessaries of life is much greater than it "is here. A fairer comparison is no doubt "made by taking the death-rate from phthisis "in the district extending for ten miles around "Melbourne, which embraces an area probably "not much more thickly peopled than the "whole of England, and contrasting it with "the death-rate from the same complaint in

"the latter country. Even here the comparison "suffers from the fact that the population "consists to a large extent of persons not "born in Victoria, who are for the most part "strong sturdy individuals, the pick of the "population of the countries they left, many "having even had to stand medical tests "before finding acceptance by emigration "authorities. In any country, and under any "influences, only a very small proportion of "such persons would become consumptive, and "a similar immunity would probably extend "also to their offspring. On the other hand, "it must not be forgotten that a certain "number of persons afflicted with phthisis "have come to Victoria for the supposed "improvement of their health, and although "many of these may have returned when they "failed to experience that benefit they expected, "others have remained to die, and the death-"rate from phthisis, especially in the metro-"politan district, has been somewhat raised "by this circumstance. Whichever of these "disturbing influences has been most powerful "in its operation, or whether, both being

"equally potent, the one has counteracted the other, the fact remains that the death-rate from phthisis in Melbourne and suburbs is now within a fraction of being as high as that in all England, as will be seen by the following figures, which show the result for Melbourne and Suburbs during the last three years, and for England during 1873:—

Deaths from Phthisis per 10,000 Persons Living.

MELBOURNE & SUBURBS.		England & Wales.		
Year.	Average.	Year.	Average.	
1873 1874 1875	20·51 22·04 21·46	1873	22.14	
Mean -	21.32			

If the above extract be compared with the remarks made at page 44 of the Essay On Phthisis (1870), the two statements will be found identical in every particular of fact and argument; so that what I then ventured to assert has since been confirmed by official

authority. This has never been impugned by opponents who nevertheless assailed my calculations as if they had all been pure invention. Novel and startling they doubtless were, enough to upset ordinary equanimity; but the balance of reason is now restored, even to the Medical Society of Victoria, where, after a lengthened debate, the conclusion was come to that, "except to some favourable cases in the earlier stages, Victoria is no fit place for the phthisical." \* And how could it well be otherwise, with the fact staring the members of the profession in the face that, whatever the aggregate mortality of the country may be comparatively, at the head of it stands phthisis, as the most fatal of all diseases in this as in all other countries. Everywhere obeying the same laws, whatever may be found true of it in England may certainly be predicated of it here. What I have had occasion to affirm before upon this particular, I may now take the last opportunity to repeat:--" By a reference to

<sup>\*</sup> See Argus, 9th November 1876.

"the Victorian Year Book for 1875, it will "be found that in Melbourne and suburbs, "fairly comparable with all England in regard "to the average conditions for harbouring "phthisis, the disease is equally prevalent. "If there be in the inference a fallacy, it "must rest with medical men, who fail truly "to register the cause of death. If their "returns are right, the registrar's cannot be "wrong, and what I asserted he has verified. "My calculations were assailed, but upon this "point, at any rate, his have never been "impugned. Whatever may be our general "death-rate as compared with other countries, "here as there phthisis tops the list—'The "captain jewel in the carcanet of the King "of Terrors, worn here, as all over the "earth."

It was formerly very clearly shown, and the demonstration has been reiterated by our official statist, that the same rule of increase with increased density of population obtains here that has so forcibly been formulated by Dr. Farr, who in his last report (1875) states: "In the Appendix to the Fifth Report

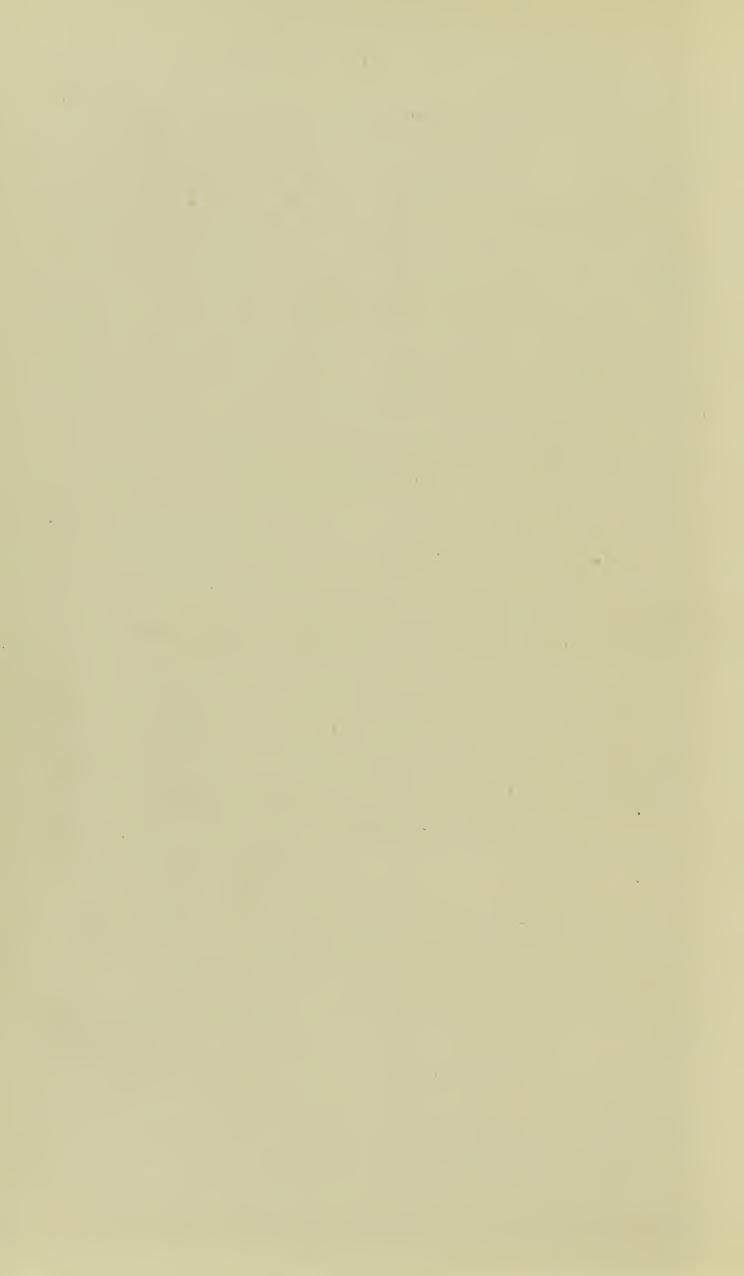
"I endeavoured to show that within certain "limits there was a definite relation between "density of population and mortality. And "it was found that the mortality of districts "did not increase as their density, but as the "6th root of their density." My own aim was to find whether or not a similar result would exist in this new country, as it necessarily would if there is a positive science of hygiene. Probably it was a gratuitous act of presumption for a private individual to begin an important inquiry, by which "Illusions will "be dispelled; quackery, as completely as "astrology, suppressed; a science of therapeu-"tics created; suffering diminished; and life "shielded from many dangers." Yet, if it appeared in any degree obtrusive, it was justified even in that by Dr. Farr, for does not he now assure us that "there is a "private hygiene, a hygiene peculiar to every "profession, and to every individual; a "hygiene applicable to families, to children, "to old men, to women, to men suffering "from heart and other organic diseases. "And this hygiene falls entirely within the

"province of private practice. It is not the "least useful part of the medical art, and "deserves distinct recognition. It receives "recognition in the case of princes," and may one day even in Victoria receive recognition from people of common sense, when they come to think that the attractions of medical study are not exclusively for those magnates who can buy, beg, or bribe for, public appointment. In that, Dr. Farr again says of medicine, "Nothing stands between it and truth." Adhering to this principle of medical debate, it may be further affirmed of Phthisis in Australia, what Dr. Farr generalised when classing it among the "diseases fatal to nearly every one they attack;" that "as medicine affords alleviation "but cannot cure, prevention is the great "end to be aimed at."

For my own part, no general statement has been made by me that was not based upon, or corroborated by, histories of individual cases that have come directly within my own cognizance. Throughout the protracted investigation, not a word have I advanced

that I have yet had cause either to qualify or retract. Having thus completed the proofs of my original proposition, they may now let me withdraw from the controversy; and, if allowed a little liberty in adapting a certain famous valedictory, add, "\* \* \* perfuncto rebus iis, quas adeptus sum "quasque gessi. \* \* \* populum \* \* \* SANUM "relinquam—\* \* \* !"

## THE END



By the same Author

ON

## PHTHISIS

AND THE

## SUPPOSED INFLUENCE OF CLIMATE

BEING AN

Analysis of Statistics of Consumption in this part of Australia

WITH REMARKS ON THE CAUSES OF

THE INCREASE OF THAT DISEASE IN MELBOURNE

